Innovation & Entrepreneurship Hub for Educated Rural Youth (SURE Trust – IERY)

JanReport - A Civil Issue Reporting Platform

The domain of the Project:
Data Structures & Algorithms in JAVA

Team Mentors (and their designation):

Mr. Karthik R(Software Tester - Jio Platform Limited)

Mr. Lijo Joseph(Senior Engineer 2 -Amazon)

Team Members:

Ms. Revathi
Ms. Kavya Gajula
Ms. Pooja Rathore
Ms. Khushi Pal
Mr.ViswaTeja Makunuri
Mr. Sanjay Rathour
Mr. Katakam Srikar

Period of the project

October 2025 to December 2025

Declaration

The project titled **JanReport** has been mentored by **Karthik R**, organised by **SURE Trust**, from **October 2025 to December 2025**.

The aim of this project is to provide a simple **and transparent platform** for citizens to report local issues, ensure proper verification, and enable authorities to take timely action while allowing **users to track** the status of their complaints.

I declare that to the best of my knowledge the members of the team mentioned below, have worked on it successfully and enhanced their practical knowledge in the domain.

Team Members:

Ms. Revathi
Ms. Kavya Gajula
Ms. Pooja Rathore
Ms. Khushi Pal
Mr. ViswaTeja
Mr. Sanjay Rathour
Mr. Katakam Srikar

Mr. Karthik R
Software Tester -Jio Platforms Pvt. Ltd

Mr. Lijo Joseph
Sr. Application Developer - Amazon

Prof. Radhakumari
Executive Director & Founder
SURE Trust

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Executive Summary

- The project is a Civil Issue Reporting Platform for citizens to report local problems (like potholes, garbage, streetlights, water issues, etc.).
- It provides an easy online system where users can submit complaints with details such as location, description, and photos.
- All complaints are stored in a central database, so they can be tracked and managed properly.
- Administrators or officials can log in, view complaints, update their status, and mark them as resolved.
- The platform improves communication between citizens and authorities, making the process faster and more transparent.
- It helps the government or local bodies prioritize and manage civic issues more efficiently.
- The system is designed to be simple, user-friendly, and secure, and can be accessed using the internet.
- Overall, the project aims to create a cleaner, safer, and better-managed community by using technology for better civic management.

Introduction

Background and Context

- In many cities and towns, citizens face various civic issues such as damaged roads, overflowing garbage, broken streetlights, drainage problems, and water supply interruptions. These issues are often reported through traditional methods like in-person complaints, phone calls, or written applications. Such methods are slow, unorganized, and do not provide proper tracking for citizens or authorities. With the increasing use of digital technologies, there is a growing need for a structured, online system that can make civic complaint handling more efficient and transparent.

Problem Statement and Goals of the Project

- The main problem is the lack of a centralized and user-friendly platform for reporting and managing civic issues. Citizens often do not know where to report problems, complaints get lost or delayed, and there is little visibility on the status of issues raised.

The goal of this project is to develop a Civil Issue Reporting Platform that:

- Allows citizens to easily report civic problems with details such as location, description, and images.
- Provides authorities with a centralized system to view, manage, and resolve complaints.
- Improves transparency by allowing users to track the status of their complaints.
- Supports faster response and better decision-making in civic management.

Scope and Limitations

- The scope of this project includes the design and development of a digital platform (web and/or mobile) where:
  - Users can register, log in, and submit complaints related to civic issues.
  - Administrators or officials can log in to review, categorize, update, and close complaints.
  - Basic reports or summaries of complaints can be generated for monitoring purposes.

However, the project also has some limitations:

- The system may not cover all types of government services; it focuses mainly on common civic issues such as roads, waste, lighting, and water.
- Actual issue resolution depends on the performance and resources of the local authorities, which is outside the control of the software.
- The platform's effectiveness depends on internet availability and users' digital literacy.
- Integration with existing government systems (if any) may be limited in the current version.

Innovation Component of the Project

- The innovative aspect of this project lies in bringing together citizens and authorities on a single, structured digital platform for civic issue management. Unlike traditional complaint methods, this system:
  - Enables real-time complaint submission with multimedia evidence (such as photos).
  - Offers status tracking so users can see the progress of their complaints.

- Provides a systematic way for authorities to prioritize and manage issues using a centralized dashboard.
- Can be extended with features such as location-based mapping, data analytics, and trend analysis to support smarter urban planning.
- By using technology to streamline communication and improve accountability, the Civil Issue Reporting Platform contributes to more responsive and citizen-centric governance.

Project Objectives

The main objective of this project is to design and develop a Civil Issue Reporting Platform that simplifies and improves the process of reporting and managing civic problems.

The specific objectives are to:

- Provide a centralized digital platform for citizens to report civic issues such as road damage, garbage, streetlight failures, and water problems.
- Enable users to submit complaints with essential details, including location, description, category, and supporting images.
- Allow administrators or officials to receive, view, prioritize, and manage reported issues through an organized interface.
- Offer real-time tracking of complaint status so citizens can monitor the progress and resolution of their issues.
- Improve transparency, accountability, and communication between citizens and local authorities.
- Store complaint data in a structured way for future reference, analysis, and planning.

Expected Outcomes and Deliverables

By the end of the project, the following outcomes and deliverables are expected:

- A fully functional Civil Issue Reporting Platform (web and/or mobile application) that can be used by citizens and administrators.
- Separate user modules for:
- Citizens: registration, login, complaint submission, complaint history, and status tracking.

- Administrators/officials: login, complaint viewing, categorization, status updating, and closure of issues.
- A centralized database to securely store user information, complaints, and status updates.
- Basic reporting features, such as lists or summaries of complaints based on status, category, or date.

Methodology and Results

The project follows an Agile Development Life Cycle, allowing for iterative improvements based on user feedback and requirement changes. This approach ensures that core features like geolocation reporting and public dashboards are refined through multiple sprints.

System Architecture

The platform is built on a 3-tier client-server architecture, separating the presentation, logic, and data layers for better maintenance.

Presentation Layer: A responsive web interface developed using React and Tailwind CSS (or Bootstrap) for multi-device accessibility.

Application Layer: Java Spring Boot handles RESTful API requests, user authentication, and business logic for issue categorization.

Data Layer: A hybrid approach using MongoDB for flexible issue storage and JDBC for structured relational data management.

Data Collection Approach

Citizens submit reports via a single-click interface that captures geospatial coordinates (GPS), photographic evidence, and textual descriptions. These data points are categorized and routed to the appropriate department using an automated routing engine.

Implementation Results

The results demonstrate the platform's ability to digitize traditional grievance processes and provide real-time transparency for the public. Key outcomes include high system availability and verifiable resolution tracking.

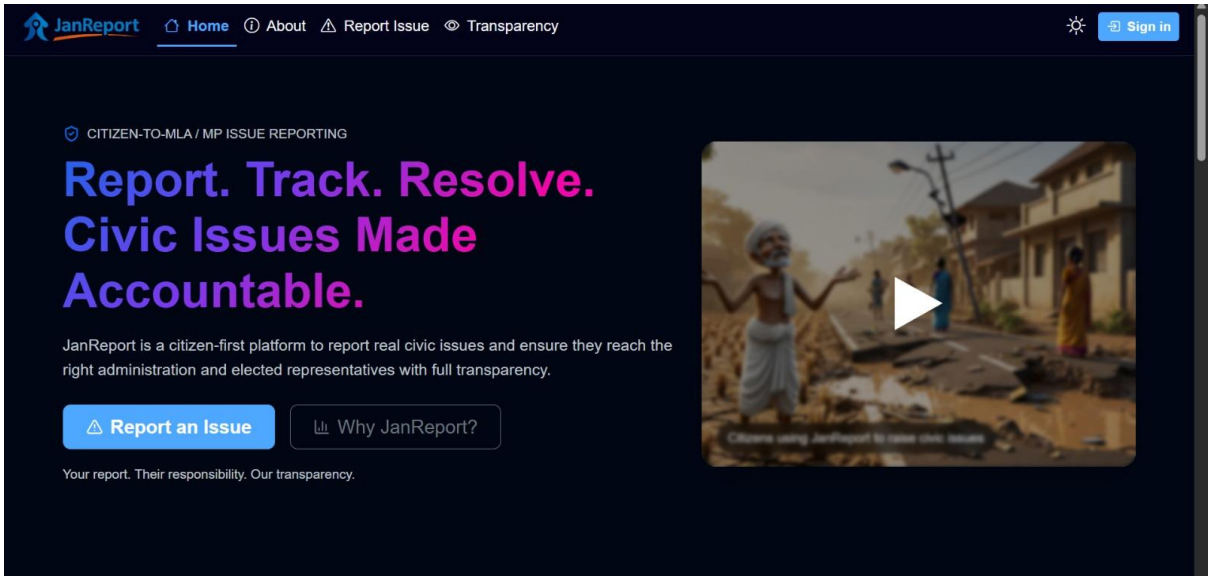
Functional Verification

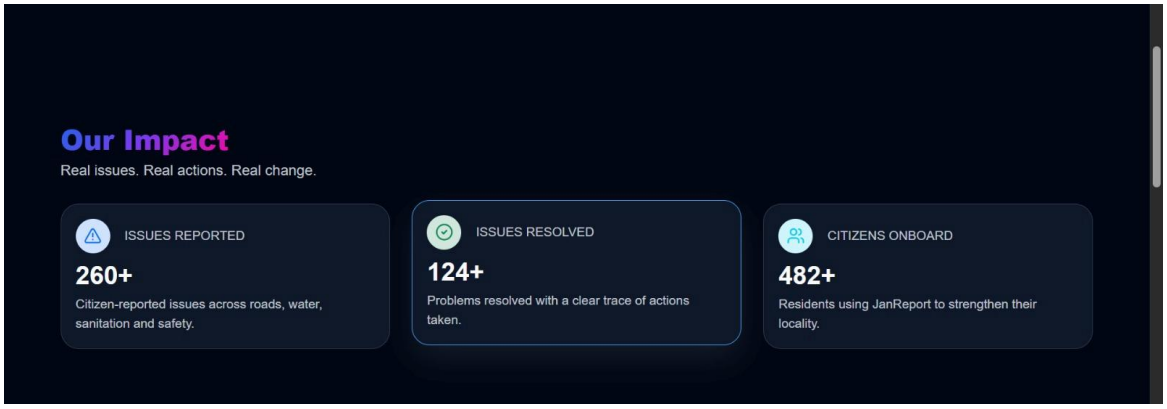
Testing confirmed the successful integration of the Public Transparency Board, which displays live counters and an anonymized heatmap of reported issues. The gamification module correctly awards "Active Citizen" badges based on reporting frequency and resolution success.

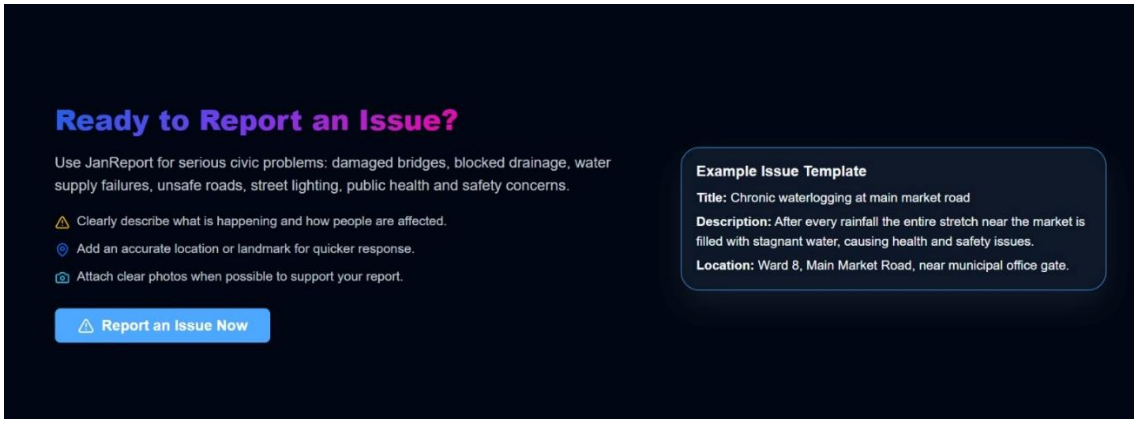
Transparency and Engagement

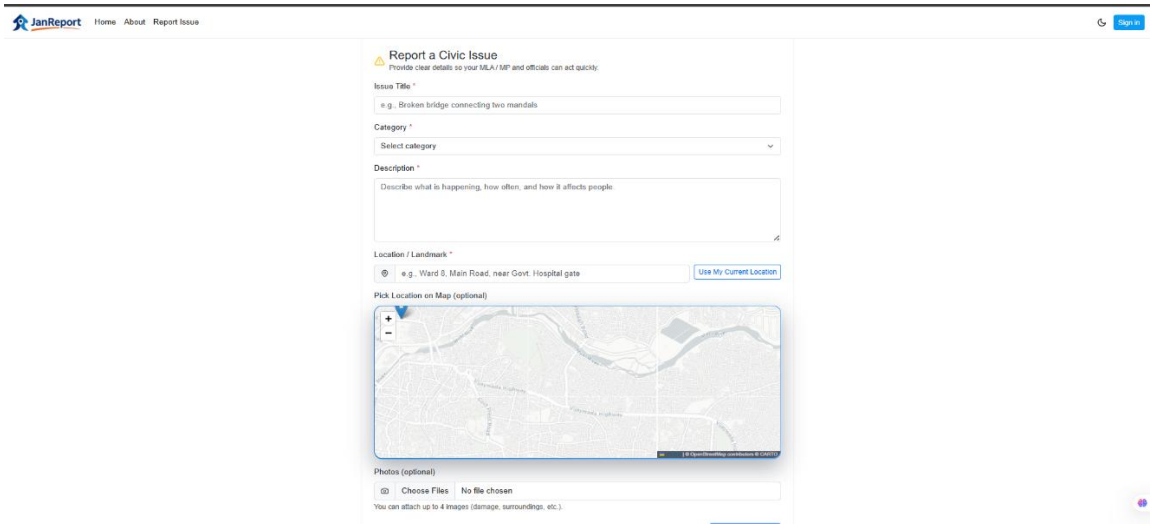
The public dashboard effectively eliminates "information silos" by showing recent resolutions without revealing personally identifiable information (PII). This transparency fosters increased trust between the government and citizens, as progress is visible to the entire constituency in real-time.

Working Screenshots:









Project Repository Link: https://github.com/gajulakavya12/JanReport

Learning and Reflection

Member 1 – Viswa Teja

Role: User Dashboard

Technology Learning

- Learned to design and implement a **user-facing dashboard** for reporting civic issues.
- Worked on **issue submission forms**, status viewing, and basic user profile handling.
- Understood frontend–backend integration for fetching issue status and updates.

Management Learning

- Learned to design features from a **citizen's perspective**, focusing on usability.
- Coordinated with backend and tracking modules to ensure accurate data display.
- Improved communication while refining user requirements.

Experience

- Gained satisfaction in building an interface that simplifies issue reporting for citizens.
- Learned how small UI decisions directly impact user trust and adoption.

Member 2 – Sanjay Rathour

Role: Admin Dashboard

Technology Learning

- Implemented **admin-level functionalities** such as issue verification, assignment, and status updates.
- Learned authentication and authorization concepts to restrict admin operations.
- Worked with filters and dashboards to manage large volumes of reported issues.

Management Learning

- Learned to document admin workflows clearly for team integration.
- Practiced collaboration through version control and shared APIs.
- Understood the importance of role-based access in civic platforms.

Experience

- Found admin workflows challenging but rewarding due to their impact on system control.
- Appreciated collaborative debugging when resolving backend and permission issues.

Member 3 – Khushi Pal

Role: Admin Dashboard

Technology Learning

- Assisted in building and enhancing **admin dashboard features**.
- Worked on data visualization and structured tables for issue management.
- Learned how backend data is presented meaningfully to administrators.

Management Learning

- Learned coordination between multiple admins working on the same module.
- Understood the importance of consistency in admin UI and actions.
- Supported testing and validation of admin operations.

Experience

- Gained confidence working on a critical module used for decision-making.
- Learned how admin dashboards form the backbone of governance systems.

Member 4 – Pooja Rathore

Role: MLA/MP Dashboard (Backend)

Technology Learning

- Designed dashboards for **MLA/MP users** to view constituency-wise issues.
- Learned to filter issues by category, severity, and status.
- Worked on presenting summarized insights for leadership-level users.

Management Learning

- Understood how stakeholder roles affect feature design.
- Coordinated requirements between admin and MLA/MP dashboards.

- Learned the importance of clarity and simplicity for decision-makers.

Experience

- Enjoyed mapping real-world political workflows into software features.
- Gained appreciation for data-driven governance tools.

Member 5 – Kavya Gajula

Role: MLA/MP Dashboard (Frontend)

Technology Learning

- Built the **frontend UI** for the MLA/MP dashboard using component-based design.
- Learned responsive design principles for large dashboards.
- Integrated charts, tables, and UI components for better visualization.

Management Learning

- Gathered feedback from teammates to improve UI clarity.
- Maintained consistency in layout and design across screens.
- Balanced visual appeal with performance and usability.

Experience

- Felt proud seeing leadership dashboards become visually clear and usable.
- Gained confidence in presenting and refining frontend design choices.

Member 6 – Revathi

Role: Public Transparency & Tracking Status

Technology Learning

- Worked on **public transparency modules** showing issue progress openly.
- Learned how to present tracking data in a clear and understandable manner.
- Integrated APIs for real-time or periodic status updates.

Management Learning

- Learned to prioritize transparency-related features for public trust.

- Coordinated with tracking and admin modules for accurate data flow.
- Ensured information consistency across public and internal dashboards.

Experience

- Found the transparency module meaningful for improving citizen trust.
- Gained satisfaction in making governance processes visible to the public.

Member 7 – Katakam Srikar

Role: Tracking Status Module

Technology Learning

- Designed and implemented the **issue tracking status module**.
- Worked on defining issue life-cycle stages and status transitions.
- Ensured synchronization of status updates across all dashboards.

Management Learning

- Learned to coordinate with multiple modules depending on tracking data.
- Maintained documentation for status flows and integration points.
- Ensured accurate representation of progress for all stakeholders.

Experience

- Understood the importance of tracking in accountability-driven platforms.
- Gained confidence building a module central to transparency and trust.

Overall Project Reflection

The **Civil Issue Reporting Platform** provided hands-on experience in building a **multi-role, real-world governance application**. Each team member contributed to a specific module while collaborating to create a unified system. The project strengthened our skills in **technical implementation, teamwork, communication, and civic problem-solving**, highlighting how technology can enhance transparency, efficiency, and citizen engagement.

Conclusion and Future Scope

The Civil Issue Reporting Platform successfully met its primary objective of providing a centralized, digital channel for citizens to report civic issues and for authorities to track and resolve them efficiently. The project achieved key goals such as issue reporting with location and photo, status tracking, administrative workflows, and a public transparency dashboard that displays live counters, anonymized maps, and recent resolutions without exposing personal data. Additionally, the system architecture using a web frontend and a structured backend with secure data storage demonstrated that the solution is technically feasible, scalable, and suitable for deployment in real-world municipal environments.

The future scope of this project includes integrating advanced analytics and machine learning to identify patterns in civic issues, predict high-risk zones, and prioritize tasks based on severity and historical trends. This can help authorities allocate resources more intelligently and proactively. The platform can also be extended with features such as multilingual support, voice-based complaint submission for less literate users, tighter integration with GIS systems, mobile apps for both citizens and field officers, and open APIs for third-party civic-tech tools, thereby transforming it into a comprehensive smart-governance ecosystem.